

ILLINOIS POLLUTION CONTROL BOARD  
February 10, 1983

ILLINOIS ENVIRONMENTAL PROTECTION )  
AGENCY, )  
 )  
Complainant, )  
 )  
v. )  
 )  
ROWE FOUNDRY AND MACHINE COMPANY, ) PCB 80-174  
 )  
Respondent. )  
 )  
and )  
 )  
ROWE FOUNDRY AND MACHINE COMPANY, ) PCB 81-49  
 )  
Petitioner, ) CONSOLIDATED  
 )  
v. )  
 )  
ILLINOIS ENVIRONMENTAL PROTECTION )  
AGENCY, )  
 )  
Respondent. )

WAYNE L. WIEMERSLAGE, TECHNICAL ADVISOR, AND VINCENT W. MORETH,  
ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF THE ILLINOIS  
ENVIRONMENTAL PROTECTION AGENCY.

RICHARD J. KISSEL, MARTIN, CRAIG, CHESTER & SONNENSCHNEIN,  
APPEARED ON BEHALF OF ROWE FOUNDRY AND MACHINE COMPANY.

OPINION AND ORDER OF THE BOARD (by I. G. Goodman):

On September 29, 1980 the Illinois Environmental Protection Agency (Agency) filed a Complaint docketed as PCB 80-174 against Rowe Foundry and Machine Company (Rowe) alleging certain violations of the Illinois Environmental Protection Act (Act) and Chapter 2: Air Pollution Rules and Regulations (Rules). On April 2, 1981 Rowe filed a Petition for Variance docketed as PCB 81-49 requesting relief from the Rules until such time as the Board determined Rowe's proposed site-specific regulation docketed as R81-15. On September 15, 1982 the Board dismissed R81-15. Hearing having been held in both PCB 80-174 and PCB 81-49 on December 13, 1982, the parties herein now petition the Board to consolidate the two dockets for purpose of decision. That motion is hereby granted. The Board has received no public comment other than that received as testimony at hearing in this matter.

The parties have presented a Stipulation, Statement of Facts and proposed Settlement Agreement which purports to settle both actions herein. Such a settlement agreement is proper in an enforcement action pursuant to Section 103.180 of the Board's Procedural Rules. The Board, however, has stated that it does not favor the use of a settlement agreement with respect to a variance proceeding. For purposes of the variance petition, the Board shall therefore construe the Stipulation, Statement of Facts and proposed Settlement Agreement as merely an agreement as to the facts of the case.

The Stipulation recites the facts of this case as follows. Rowe owns and operates a gray-iron foundry located in Martinsville, Illinois which produces counterweight castings formed in cast iron. The facility has been in existence for over 65 years and is Martinsville's largest single private employer. Air Quality Control Region 66, in which the facility is located, has been designated as unclassified for carbon monoxide. The common issue presented in both of the cases is the level of carbon monoxide emissions from the facility's cupola melting operation. As is typical for a small foundry operation, the cupola operates on an intermittent basis, the total operating time being less than one-half of the foundry operating time. The cupola incorporates a scrubber to control particulate emissions which is attached to the cupola immediately above the melting zone. The location of the exhaust duct apparently causes a reduction of the temperature of the stack gases below that required for oxidation of carbon monoxide. There were no regulations for carbon monoxide emissions at the time the equipment was initially installed.

Rowe's initial operating permit was received from the Illinois Air Pollution Control Board in 1969. Subsequently the Agency issued a five-year operating permit for the cupola in 1973. On occasion, Rowe has experienced blockages in the charging area of the cupola due to large pieces of scrap metal lodging above the scrubber exhaust ducts and blocking the continuous feed down of scrap metal to the melting zone. Rowe would then turn off the scrubber to allow the direct heat from the melting zone to melt the offending piece of iron and allow the operation to continue. The only alternative would be to terminate the operation, cool the furnace, and physically remove the scrap iron block.

In July, 1977 Rowe tested the cupola stack in anticipation of applying for permit renewal. The results of that test indicated that carbon monoxide levels were greater than allowed by Rule 206(e) when corrected to 50% excess air. Subsequently, in September, 1977 the Agency denied the renewal application stating that no permit may be granted due to the violation of Rule 206(e). In 1980 Rowe added approximately eight feet to the height of the stack to improve emission dispersion upon the advice of an engineer at the U.S. Environmental Protection Agency.

The Complaint in PCB 80-174 in Count I alleges violation of Section 9(a) of the Act and Rule 102 of the Regulations in that the cupola discharges contaminants that tend to cause air pollution. The Agency has moved for voluntary dismissal of this count after review of the available evidence. That motion is hereby granted. Counts II, III and IV of the Complaint allege violation of Sections 9(a) and 9(b) of the Act and Rules 103(b)(2), 105(a) and 206(e) of the Regulations in that Rowe operated the cupola without an operating permit, without a permit to operate during malfunction or breakdown, and in violation of the Board's carbon monoxide standards. In the Stipulation Rowe admits the allegations of Counts II, III and IV of the Agency's Complaint and agrees to pay a penalty of \$1,000.00. In June, 1981 an engineering firm under contract to the U.S. Environmental Protection Agency tested the carbon monoxide emissions from Rowe. The Agency used these data to model the ambient air quality in the area (Exhibit B). This analysis showed no violations of the 1-hour Ambient Air Quality Standard or the 8-hour Ambient Air Quality Standard, using worst-case conditions. Further analysis by the Agency, using a more realistic average emission rate and average stack exit velocity, indicated a maximum concentration of 5.5 ppm, well below the carbon monoxide air quality standard of 9 ppm (Exhibit B). In May, 1982 the Economic Technical Advisory Committee of the Illinois Department of Energy and Natural Resources (ETAC) issued a report with regard to the proposed site-specific regulation. The ETAC Opinion supported the Agency's finding with respect to air quality standards for carbon monoxide. It thus appears that Rowe's carbon monoxide emissions have caused little or no adverse environmental effects.

Considering these facts and the fact that Rowe has apparently corrected the blockage problem by charging smaller pieces of scrap iron, the Board finds that the proposed Settlement Agreement is an adequate resolution of the enforcement case in PCB 80-174 and will accept the Settlement Agreement as proposed by the parties.

With respect to the Variance Petition in PCB 81-49, the following additional facts were presented. Rowe has investigated a catalytic incinerator to oxidize the excess carbon monoxide emissions. The physical bulk of this incinerator makes its installation infeasible and it would require an expenditure of approximately \$163,000. Another alternative investigated is an afterburner system at a cost of approximately \$60,000 to \$75,000 excluding installation costs. Notwithstanding the cost of the installation and its operation, the incinerator would require gas in excess of that allocated to Martinsville by the transmission company servicing that town. Rowe has been informed by the Martinsville Gas engineer that the city could not guarantee the additional fuel. The third alternative involves the installation of an entirely new melting and control facility. The cost of this facility in 1980 was estimated to be approximately \$200,000 not including installation and engineering. Rowe estimates that the total cost of a new cupola and emission control

system would be between \$300,000 and \$400,000. Rowe estimates that approximately 500 heats or melting periods remain in the life of the existing cupola. Under normal conditions, Rowe would operate approximately 100 heats each year and, therefore, approximately five years would remain in the present cupola's useful life. Under adverse economic conditions, of course, that five-year useful life would be extended. In the Stipulation of Facts, as so construed by the Board, Rowe proposes a variance for five years or 500 heats, whichever first occurs, provided that Rowe's emissions do not violate the Ambient Air Quality Standards for carbon monoxide. Rowe proposes to report quarterly to the Agency concerning the cupola usage and shall commence construction of a new cupola incorporating carbon monoxide control equipment immediately following the 475th heat. In addition, Rowe proposes to follow a housekeeping and maintenance plan, that has already been implemented, to reduce sand and dust on the foundry premises (Exhibit D).

The Stipulation further provides that the Agency will support a renewal of the variance for up to five years should Rowe not expend the useful life of the cupola within the proposed five-year variance. The Board reiterates that it is utilizing the proposed Stipulation and Settlement Agreement as a Stipulation of Facts in the variance proceeding PCB 81-49. Whatever the Agency may or may not agree to do with respect to the future of this cupola is of no consequence to the Board in this decision or in any future decision. Any extension of this variance, if granted, would stand on its merits at the time of the petition.

The Board agrees that under the circumstances in this case it would be an arbitrary and unreasonable hardship to compel Rowe to comply immediately with Rule 206(e). The facts indicate that immediate compliance would cause an interruption in the plant's activity at a time of high unemployment in the State and/or the excessive use of a limited natural resource with the use of an afterburner. Balanced against that hardship is the de minimus potential damage to the environment from Rowe's emissions of carbon monoxide. The Board in the past has considered shut down of equipment as a suitable compliance plan in the grant of a variance. International Harvester Company v. Illinois Environmental Protection Agency, 23 PCB 441, PCB 75-271 (September 15, 1976). The Board will grant the variance requested and order Rowe to execute its proposed compliance plan.

Rowe has filed a Motion to Amend its Petition for Variance according to the provisions of the Stipulation of Facts. That motion is hereby granted. The Agency proposes to submit the variance, if granted, as a revision to the Illinois State Implementation Plan (SIP) pursuant to the Clean Air Act. In addition Rowe agrees to submit to the Agency an application for operating permit of the cupola system including provisions for malfunction operation.

One citizen testified at hearing concerning the emissions from the cupola and its effect on his well being. It appears from the record and the testimony that the proposed compliance plan and the corrective measures already taken by Rowe will result in the alleviation of his problems.

This Opinion constitutes the findings of fact and conclusions of law of the Board in this matter.

ORDER

1. Joint Motion for Consolidation of PCB 80-174 and PCB 81-49 is hereby granted.
2. Rowe Foundry and Machine Company is found in violation of Sections 9(a) and 9(b) of the Illinois Environmental Protection Act and Rules 103(b)(2), 105(a) and 206(e) of Chapter 2: Air Pollution.
3. Rowe Foundry and Machine Company shall pay, within 45 days of the date of this Order, a penalty in the amount of \$1,000.00 for the violations found in paragraph 1 above, said payment to be made by certified check or money order which is to be sent to: Illinois Environmental Protection Agency, Fiscal Services Division, 2200 Churchill Road, Springfield, Illinois 62706.
4. Count I of the Complaint in PCB 80-174 is hereby dismissed.
5. Motion of Rowe Foundry and Machine Company to amend its Variance Petition in PCB 81-49 is hereby granted.
6. Rowe Foundry and Machine Company is hereby granted variance from Rule 206(e) of Chapter 2: Air Pollution for its cupola facility located in Martinsville, Illinois under the following conditions:
  - a. Variance is granted until February 1, 1988 or until the facility has completed 500 melting cycles or heats, whichever first occurs.
  - b. Rowe Foundry and Machine Company shall execute the Compliance Plan contained in the Stipulation, Settlement of Facts and proposed Settlement Agreement filed December 14, 1982, which document is hereby incorporated by reference as if fully set forth herein.
  - c. Rowe Foundry and Machine Company shall execute the housekeeping and maintenance plan described in Exhibit D of the document noted in paragraph b. above.

- d. The carbon monoxide emissions from the cupola shall not violate the Ambient Air Quality Standards for carbon monoxide contained in Rule 310: Carbon Monoxide, Chapter 2: Air Pollution.
  - e. The cupola operation shall not permit a level of carbon monoxide to exceed 75,591 ppm corrected to 50% excess air and shall not exceed a production rate of 14 tons of iron poured per hour.
  - f. Rowe Foundry and Machine Company shall report quarterly to the Illinois Environmental Protection Agency starting April 1, 1983 concerning the number of heats processed in the prior quarter.
7. Within forty-five days of the date of this Order, Rowe Foundry and Machine Company shall execute and forward to the Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this Order. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATE

I, (We), \_\_\_\_\_, having read the Order of the Illinois Pollution Control Board in PCB 80-174 and PCB 81-49 Consolidated, dated \_\_\_\_\_ understand and accept the said conditions thereto binding and enforceable.

\_\_\_\_\_  
Petitioner

\_\_\_\_\_  
By: Authorized Agent

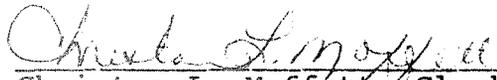
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Title

\_\_\_\_\_  
Date

IT IS SO ORDERED.

Board Member Werner concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 16<sup>th</sup> day of February, 1983 by a vote of 5-0.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board